

DEPARTMENT OF
HEALTH AND ENVIRONMENTAL SCIENCES

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Solid and Hazardous Waste Bureau
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MEMORANDUM

ENVIRONMENTAL PROTECTION
AGENCY

TO: Director's Office

AUG 8 1990

FROM: Duane Robertson *DKR*

MONTANA OFFICE

DATE: July 31, 1990

SUBJECT: ASARCO East Helena plant inspection and enforcement action

Recently bureau staff conducted a formal hazardous waste inspection of the ASARCO East Helena plant. During the inspection certain violations were noted, two of which may produce extended discussions between the department and ASARCO.

The first issue is the disposition of sulfuric acid produced at the plant. Last year, ASARCO produced over 82,000 tons of sulfuric acid as a by-product, the majority of which was either sold as a herbicide or as an ingredient in the manufacturing of fertilizers. In either case, the final disposition of the acid is that it is placed on the ground. Federal hazardous waste regulations which have been adopted by the state are very clear that when by-product material such as sulfuric acid is placed on to the ground or used to produce products that are placed onto the ground certain regulatory controls apply. Specifically, the regulations require ASARCO to comply with hazardous waste generator standards including the use of the uniform manifest system. The intent of these regulations is to insure that a generator of such waste is accountable for the disposition of such waste.

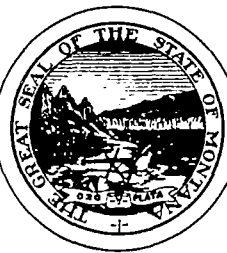
The second issue, involves the practice of ASARCO to secure apparent large volumes of spent or discarded materials from which the plant can smelt precious metals. Federal hazardous waste regulations, which also have been adopted by the state, place limited regulatory control over this activity when precious metals are extracted from hazardous waste. Specifically, such an operator must notify the department of such activity and must comply with requirements for the use of the uniform manifest. Again, the intent of these regulations to require accountability for such activity and that true, legitimate recycling occurs.

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Waste Management Section
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August 6, 1990

WARNING LETTER
CERTIFIED MAIL

Jon C. Nickel
Industrial Quality Manager
ASARCO Incorporated
East Helena, MT 59635

Dear Mr. Nickel:

Enclosed is a report resulting from my June 7 and 8, 1990 inspection of the ASARCO East Helena smelter. This correspondence addresses certain issues that arose from that inspection.

The department is considering the sulfuric acid produced at the East Helena plant as a by-product. ARM 16.44.301(3)(c) defines a by-product as "... a material that is not one of the primary products of a production process and is not solely or separately produced by the production process. "Table 1 of ARM 16.44.302 provides an outline of the regulatory scheme for, among other things, by-products exhibiting a characteristic of hazardous waste. The two areas of concern in this table are "Use Constituting Disposal" (ARM 16.44.302 [3][a]) and "Speculative Accumulation" (ARM 16.44.302 [3][d]).

ARM 16.44.302 (3)(a) stipulates that materials are wastes if they are recycled or accumulated, stored or treated before recycling in such a manner that it is "(a) used in a manner constituting disposal ...; (A) applied to or placed on the land in a manner that constitutes disposal; or (B) used to produce products that are applied to or placed on the land or are otherwise contained in products that are applied to or placed on the land. "Further, ARM 16.44.302 (5)(b) states that "The following materials are wastes, even if the recycling involves use, reuse, or return to the original process: (i) materials used in a manner constituting disposal, or used to produce products that are applied to the land...; "Based on our knowledge, it is the department's position that ASARCO at its East Helena plant is offering for sale a portion of the sulfuric acid which is being applied to or placed on the ground either directly as a herbicide or being used as a material to produce a fertilizer which is applied to the ground.

As we have discussed, please consider the hazardous waste tank portion of my inspection as informal. Hazardous waste tank regulations which have been promulgated by the U.S.EPA are now in the process of being adopted by the state of Montana. However, until formally adopted, this office has no regulatory control over such tanks. For your information, I am enclosing a hazardous waste tank system inspection checklist used during my inspection. As you will note from the checklist, there are numerous portions of the hazardous waste tank requirements that ASARCO must address in the near future. One area of particular concern to me is the presence of liquid at each of the inspection weep holes at each of the tanks. ASARCO should take action to explain the presence of such liquid as soon as possible.

With respect to the portion of my inspection pertaining to laboratory, maintenance and paint shop areas, I was impressed with the overall cleanliness and appearance of these areas. Two areas of concern from these portions of the ASARCO plant which you must address are: laboratory waste and the disposition of solvent and paint waste.

In the past, ASARCO has argued that its disposition of laboratory liquid waste was excluded from regulatory control by ARM 16.44.303 (1)(b)(iv) and the mineral processing waste exclusion. During my inspection, I observed that this laboratory was generating the following liquid wastes: nitric acid; hydrofluoric and hydrochloric acids and acetone. It is the department's position that waste generated from the ASARCO laboratory is not an integral part of the mineral processing operation. In addition, ARM 16.44.303 (1)(b)(iv) excludes from hazardous waste regulatory control mixtures of any waste and hazardous waste identified in ARM 16.44.330 through 16.44.333, if the generator can demonstrate that the mixture consists of wastewater the surface water discharge of which is permitted pursuant to Title 75, chapter 5, MCA, and applicable rules. Further, this mixture exclusion may only apply if the resultant mixture no longer exhibits a characteristic of hazardous waste as provided in ARM 16.44.303 (1)(b)(i). If ASARCO wishes to continue to claim the above mixture exclusion it must first document that this discharge is to a treatment or pretreatment system the discharge of which is permitted under Title 75, chapter 5, MCA. In addition, ASARCO must demonstrate that the waste mixture does not exhibit a characteristic of a hazardous waste as found in ARM 16.44.303 (1)(b)(i).

During a May 25, 1984 inspection of the ASARCO East Helena facility, plant personnel indicated that ASARCO no longer used Stoddard solvent in its operations. During my inspection, I observed that the prevalent degreaser used throughout the plant was in fact Stoddard solvent and that the common method of disposition of this waste solvent was to the plant's blast furnace. In addition waste paint and thinner is discharged to the sinter pile. The continued burning of waste solvent in ASARCO's blast furnace

is contingent upon certain factors. First, you must determine if the waste solvent is identified as a hazardous waste. If the waste solvent exhibits one or more of the hazardous waste characteristics or is listed as a hazardous waste, then the material would be considered a regulated hazardous waste or potentially a hazardous waste fuel. If the solvent is designated as a hazardous waste, ASARCO must comply with regulations pertaining to hazardous waste generators (ARM 16.44.401 through 418). If the solvent is designated as a hazardous waste fuel, ASARCO must comply with subpart D of 40 CFR Part 266 (ARM 16.44.306 [1][b]).

Within 30 days of receipt of this correspondence, the department is requiring ASARCO to explain in writing its intentions for the future disposition of both laboratory and solvent waste. This explanation must include a time table for implementation of these waste management practices.

During my inspection, I observed a large number of containers being stored with materials which ASARCO intends to reclaim precious metals. ARM 16.44.306 (1)(a) stipulates that hazardous wastes that are to be recycled are to be known as "recyclable materials." Recyclable materials from which precious metals are reclaimed are regulated under subpart F, 40 CFR Part 266. This federal regulation has been adopted by reference in ARM 16.44.306 (4).

As provided in ARM 16.44.402 (1), the department is requiring ASARCO to determine if this recyclable material is a hazardous waste. If the determination is made that the material either exhibits a characteristic of hazardous waste or is a listed hazardous waste, then the following discussion of regulator control of recyclable materials apply.

ARM 16.44.306 (3)(b) states that "Owners or operators of facilities that recycle recyclable materials without storing them before they are recycled are required to notify the department of their recycling activities by filing a completed form 8700-12 with the department and are subject to the requirements of 40 CFR 265.71 and 265.72 (dealing with the use of the manifest and manifest discrepancies),... "If it is ASARCO's intent to recycle recyclable materials without storing, then please fill out the enclosed notification form and return it to this office. In addition, the department is requiring that ASARCO submit a written explanation as to procedures it will follow to comply with manifest and manifest discrepancy requirements.

In addition, ARM 16.44.306 (3)(a) stipulates that unless exempted, owners or operators of facilities that store recyclable materials before they are recycled are regulated under all applicable provisions of Subpart B through L of 40 CFR Parts 264 and 265. In addition, 40 CFR 266.70 (c) requires entities who store recycled materials to maintain the following records to assure that materials are not being accumulated speculatively: records showing

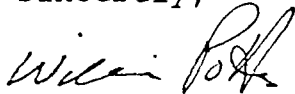
the volume of materials stored at the beginning of the calendar year; the amount of materials generated or received during the calendar year; the amount of materials remaining at the end of the calendar year. If it ASARCO's intent to store recyclable materials prior to recycling, the department is requiring that, within 30 days of receipt of this correspondence, it must submit in writing its intent and a plan for complying with the above regulations.

ARM 16.44.325 does provide ASARCO with the mechanism to seek to have recyclable materials reclassified to a material other than a waste. In addition, ARM 16.44.326 provides the criteria the department must follow in determining a reclassification request. I would recommend that you review these regulations as to their applicability to the ASARCO situation.

For your information, I am enclosing a copy of current state hazardous waste regulations. Also, as you requested I am enclosing literature on solvent distillation equipment.

If you have any questions on the above correspondence, please call or write.

Sincerely,

A handwritten signature in cursive script, appearing to read "William Potts", written in dark ink.

William J. Potts
Hazardous Waste Program

MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES
Environmental Sciences Division
Solid and Hazardous Waste Bureau

FIELD INVESTIGATION REPORT

SITE: ASARCO Inc. East Helena Plant

LOCATION: East Helena

DATE & TIME: 06/07/90 and 06/08/90 0830 and 0830

CONTACT: Jon C. Nickel

INSPECTION TEAM: William J. Potts, Greg Mullen and Greg Murfitt

PURPOSE: RCRA and FIFRA inspections

REPORT PREPARED BY: William J. Potts

BACKGROUND: ASARCO has notified and then filled a subsequent notification as a large generator and a TSD at its East Helena lead smelter plant. On February 28, 1990, ASARCO requested that the plant's designation be changed to that of a small quantity generator. The plant's EPA Identification number is MTD006230346.

RESULTS OF INSPECTION: On June 7 and 8, 1990, Greg Mullen, Greg Murfitt from the Montana Department of Agriculture and myself met with Jon Nickel of ASARCO and inspected the East Helena plant.

The inspection was initiated with a review of the production of sulfuric acid at the plant as a by-product and the materials disposition. Plant process gases contain particulate and sulfur dioxide. Particulate matter is removed from the gas stream through a electrostatic precipitator and wet scrubbers. Mist precipitators are used to remove acid mist and the gas stream is then introduced to a double-contact acid plant. At this plant, sulfur dioxide is converted to sulfur trioxide. The sulfur trioxide gas is absorbed by liquid sulfuric acid to produce a concentrated acid of 93 percent. Two grades of sulfuric acid are produced at the plant: black acid and white acid, the latter being black acid which has been bleached.

In 1989, ASARCO produced as a by-product 82,307 tons of sulfuric acid of which 4,526 tons were offered for sale as a herbicide. Mr. Nickel and the ASARCO acid distribution agent explained that besides the selling of the acid as a herbicide a certain portion is sold to a food processing plant in Arizona and to uranium mining leach operations in Wyoming. However, they stated that the majority of the acid is sold as a fertilizer. In a subsequent telephone conversation on June 19, 1990 with Mr. Murfitt, I learned that the acid being sold as a fertilizer is being shipped to a fertilizer manufacturer in Idaho who is using the acid as an

ingredient for the production of fertilizer. Neither Mr. Nickel nor the acid distribution agent could provide documents to substantiate the sale of sulfuric acid from the plant for the above stated uses. I was told that such documents such as bills of sale were maintained at an ASARCO office in Arizona.

With respect to the selling of sulfuric acid as a plant desiccant, Mr. Nickel stated that ASARCO has been reporting annually such sales to the U.S.EPA since 1985. During the inspection, Mr. Murfitt reviewed these annual reports. A discussion was held on quality control/quality assurance requirements for the sale of this acid as a restricted use pesticide. During the inspection, Mr. Murfitt requested and received a sample of sulfuric acid for analysis purposes.

The sulfuric acid sold as a herbicide at ASARCO is listed as a restricted use pesticide. The acid is restricted by two separate labels one of which is registered by the U.S. EPA and the other being a special local need label issued by the state of Idaho.

After processing, the sulfuric acid is transferred by above ground pipe to one of three 300,000 gallon above ground tanks. An inspection of this tankage was made. The area was bermed and appeared to provide adequate spill confinement. I did not observe any portion of the tanks or ancillary equipment to be underground. The acid is transferred directly from the storage tanks to either rail cars or trucks for shipment. Mr. Nickel could not provide immediate documentation of the amount of sulfuric acid that may be accumulated in the tankage for extended periods of time.

Next, an inspection of the ASARCO hazardous waste tanks was made. Prior to this inspection, I informed Mr. Nickel that the hazardous waste tank regulations had not yet been adopted by the state of Montana. I told him that this office was in the process of such adoption but that the regulation would not formally be part of the state hazardous waste regulatory program until August of this year. As such, I emphasized that this portion of the inspection could only be considered preliminary. The following is a brief narrative of the tank inspection. Enclosed are inspection check lists for each tank system.

ASARCO maintains the following hazardous waste tank system: Thornock Tank (90,000 gallon total capacity, 60,000 gallon working capacity); Speiss Tank (30,000 gallon total capacity, 29,700 gallon working capacity); Tank Farm (2 - 1,000,000 gallon tanks).

The Thornock tank receives waste water from general plant wash down and surface runoff. The tank is covered with blanket insulation which precluded any visual inspection of the tank sides. Mr. Nickel stated that 30 tons of sludge were pulled from the tank last year and that the tank is cleaned out once per week. The sludges are routed into the plant's smelting process. The Speiss tank collects waste water from the plant's dressing operation and has been in operation since September, 1989. Sludges from this tank

also are introduced into the plant's smelting process. I was not able to determine the volumes of sludges generated from this tank. The Tank farm, graciously called "Potts" Paradise" by ASARCO personnel, consists of two 1,000,000 gallon tanks. Only one of these tanks is normally used to receive waste water that previously was discharged to the Lower Lake. At the time of inspection, no sludges have been removed from the tank farm.

At the time of inspection, ASARCO appeared to be maintaining at least a ten percent freeboard at all tanks in service. Inspection weep holes at all tanks showed moisture.

At this point, Mr. Nickel showed us an area adjacent to the Lower Lake which ASARCO intends to use as a storage/drying site for sludges dredged from this lake. Mr. Nickel stated that the area would consist of a concrete pad with berms to control runoff. From this discussion, I gathered that the sludges would be held on this pad for periods of time.

I next conducted a generator inspection of the plant. I first visited the plant's laboratory which consists of a wet and dry side. In the dry side, basic metal analyses of supplier samples are conducted. Spent cupels and any other solid waste generated from this area are disposed of in the plant furnace. The laboratory's wet side conducts analyses of product impurities. The laboratory utilizes a variety of acids including nitric, hydrofluoric, and hydrochloric acids. The laboratory also uses acetone. Waste from this laboratory are discharged to a plant sewer which is piped to the Thornock Tank.

I next inspected the Locomotive/Crane Shed where minor maintenance and lubrication of plant locomotives and a crane is conducted. In this area, I observed one cold bath unit which uses Stodar solvent. Minor painting is done in this area which uses methyl ethyl ketone as a thinner. All wastes generated in the shed are disposed of in the plant's furnace. ASARCO personnel could not provide waste generation rates from this area.

The plant maintains a general maintenance facility which consisted of: an electrical maintenance shop; a machine shop; a blacksmith shop; a carpenter shop; and an insulation shop. Both the electrical maintenance shop and the machine shop maintain a cold bath unit utilizing Stodar solvent. The bath units are cleaned every three to four months with wastes being charged to the plant's furnace. I did not observe any other wastes of concern being generated in the other facility shops. All the shops visited in this area had an overall appearance of being very clean and well managed.

The acid water treatment area maintains a mechanical shop where general vehicle maintenance is conducted. In the shop, I observed one cold bath unit which uses Stodar solvent. In this area waste oil also is collected in 55 gallon drums. All waste from this shop is disposed of in the plant's furnace. ASARCO personnel could not

provide me with waste generation rates for this shop.

I next inspected the acid plant maintenance shop which provides general mechanical repair for the acid plant complex. In this shop, I observed one cold bath unit which uses Stodar solvent. Accurate waste generation rates are unknown. Wastes from the shop are disposed of in the plant's furnace.

Finally, I inspected the plant's paint shop where general painting for the facility is conducted. ASARCO personnel estimated that between 15 and 20 gallons of waste paint and thinner is generated per year. This waste is disposed of at the sinter pile. It appeared that no filters are used in the paint shop.

During the inspection, I observed an area of the smelter where large numbers of 55 gallon drums were being stored. The drums were being stored in a number of areas in the general area of the blast furnace stack. Mr. Nickel explained to me that ASARCO receives a wide variety of materials from which precious metals are reclaimed. This reclamation practice apparently is a significant part of the plant's smelting operations. Mr. Nickel explained that the material received for reclamation include picture tubes, x-ray film and computer chips/boards. ASARCO maintains a storage area called the High Grade Building for much of this material. During my inspection, I observed 15 fiber containers of ground computer chips in storage. Each of the containers weighted approximately 3/4 of a ton. It appeared that ASARCO also is storing a large volume of this type of material in the vicinity of this building. I was unable to take an inventory of such material in storage.

RECOMMENDATIONS: Address the disposition of sulfuric acid as a by-product with respect to recycling and accumulation requirements. Discuss the status of hazardous waste tank regulations and deficiencies noted during the inspection. Also, clarify the department's position with regard to the handling of KO65 waste at a site involved in CERCLA corrective action. Advise ASARCO of the appropriateness of disposing solvent and paint waste in the plant's blast furnace. Provide ASARCO with available literature on solvent distillation units. Discuss the requirements for recyclable materials from which precious metals are reclaimed.